

**Amendment and Response**

Serial No.: 09/497,967

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Confirmation No.: 8124

Filed: February 4, 2000

**For: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUS**

- B1
4. (Amended) A nucleic acid molecule comprising a polynucleotide fragment having a nucleotide sequence that encodes at least one terminal portion of an i-antigen polypeptide having amino acid sequence SEQ ID NO:7, said terminal portion comprising at least about 10 amino acids.
5. (Amended) A nucleic acid molecule comprising a polynucleotide fragment having a nucleic acid sequence that encodes SEQ ID NO:7.
6. (Amended) The nucleic acid molecule of any of claims 3-5 or 36 that is a vector capable of expressing the polypeptide encoded by the nucleic acid sequence in a cell selected from the group consisting of a bacterium, a protozoan, a yeast, an insect cell, and an animal cell.
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10. (Amended) A nucleic acid molecule that is substantially complementary to any of the nucleic acid molecules of claims 3-5 or 36.
- B2
11. (Amended) A nucleic acid molecule comprising a polynucleotide fragment that hybridizes to at least a portion of the complement of SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:44 or SEQ ID NO:102 under standard hybridization conditions, wherein the polynucleotide fragment encodes a polypeptide comprising at least a membrane targeting portion or an antigenic portion of an i-antigen protein, wherein said antigenic portion is capable of inducing an immune response in a fish.
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- B3
14. (Amended) A composition for inducing an immune response in a fish, said composition comprising at least one nucleic acid molecule of any of claims 3-7, 10, 11 or 36.

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- BA 18. (Amended) The composition of claim 14 wherein the nucleotide sequence encodes an antigenic portion of an i-antigen polypeptide linked at its carboxy-terminus to a plurality of molecules of the C3d component of complement.

- B<sup>5</sup> 23. (Amended) Transformed *Tetrahymena* comprising the nucleic acid molecule of any of claims 3-11 or 36.

- B<sup>6</sup> 36. (New) The nucleic acid molecule of claim 5 comprising at least one nucleotide sequence selected from the group consisting of SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:44 and SEQ ID NO:102.

37. (New) The nucleic acid molecule of claim 6 wherein the cell is part of a multicellular organism.